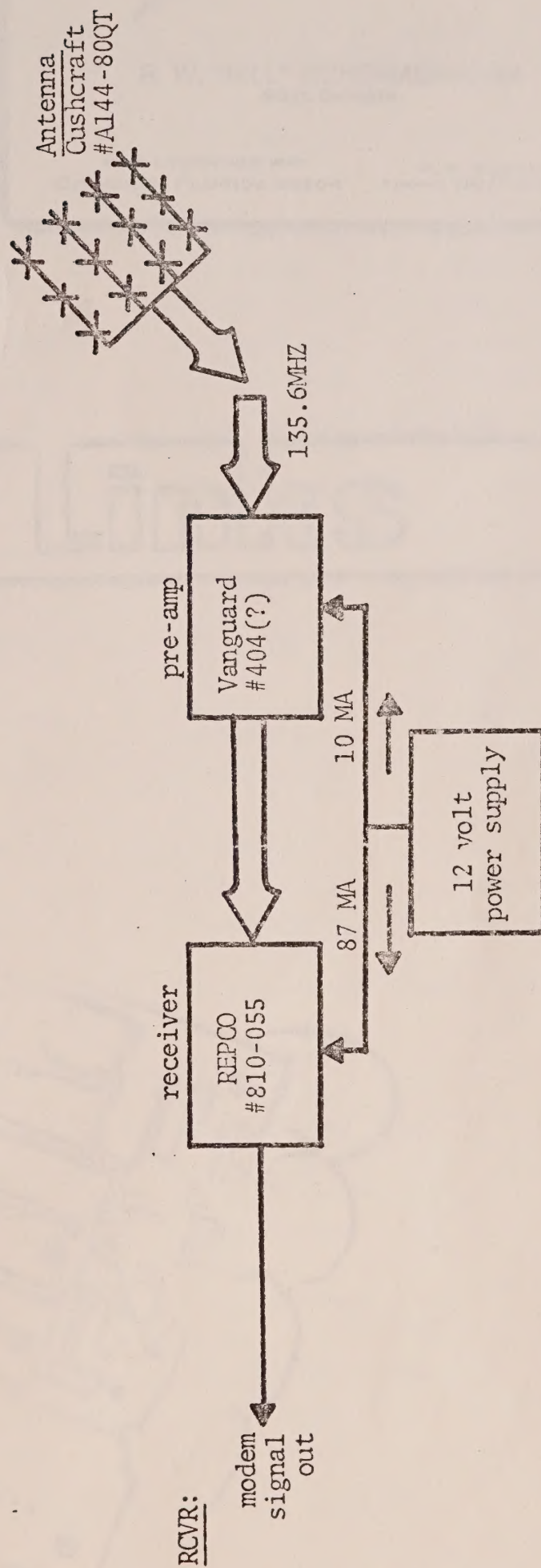
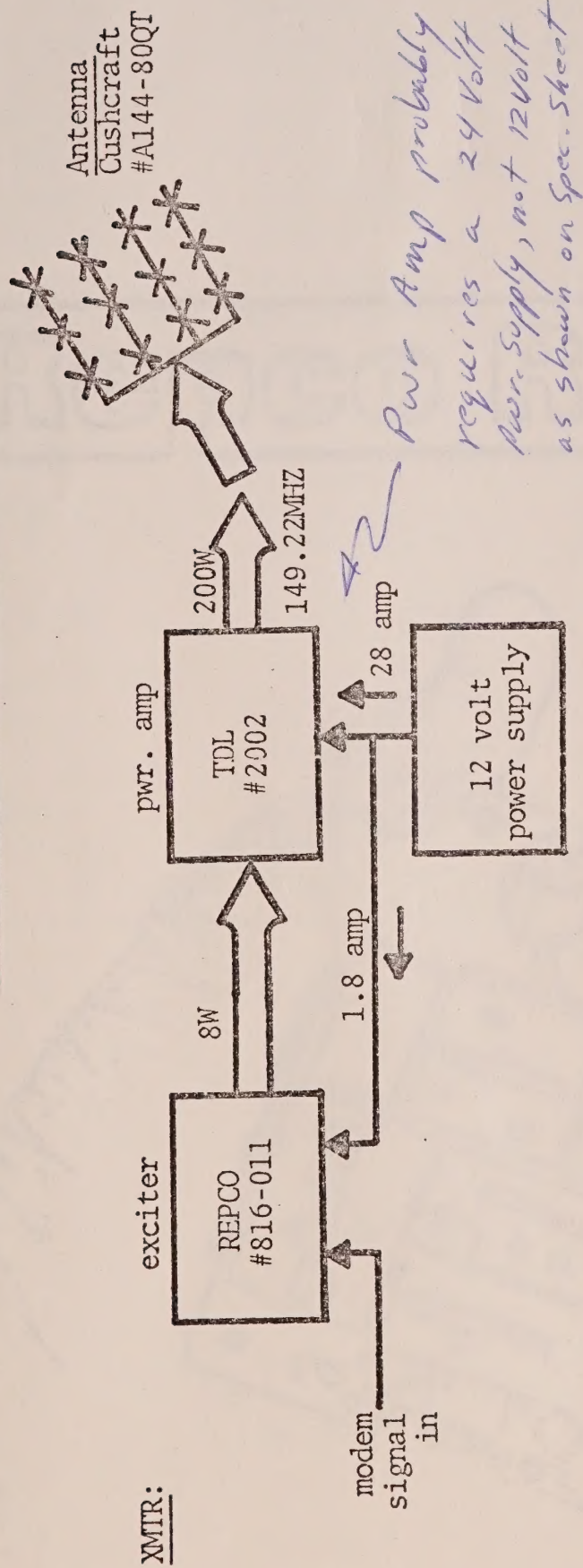


SUGGESTED

ATS-1 GROUND STATION CONFIGURATION



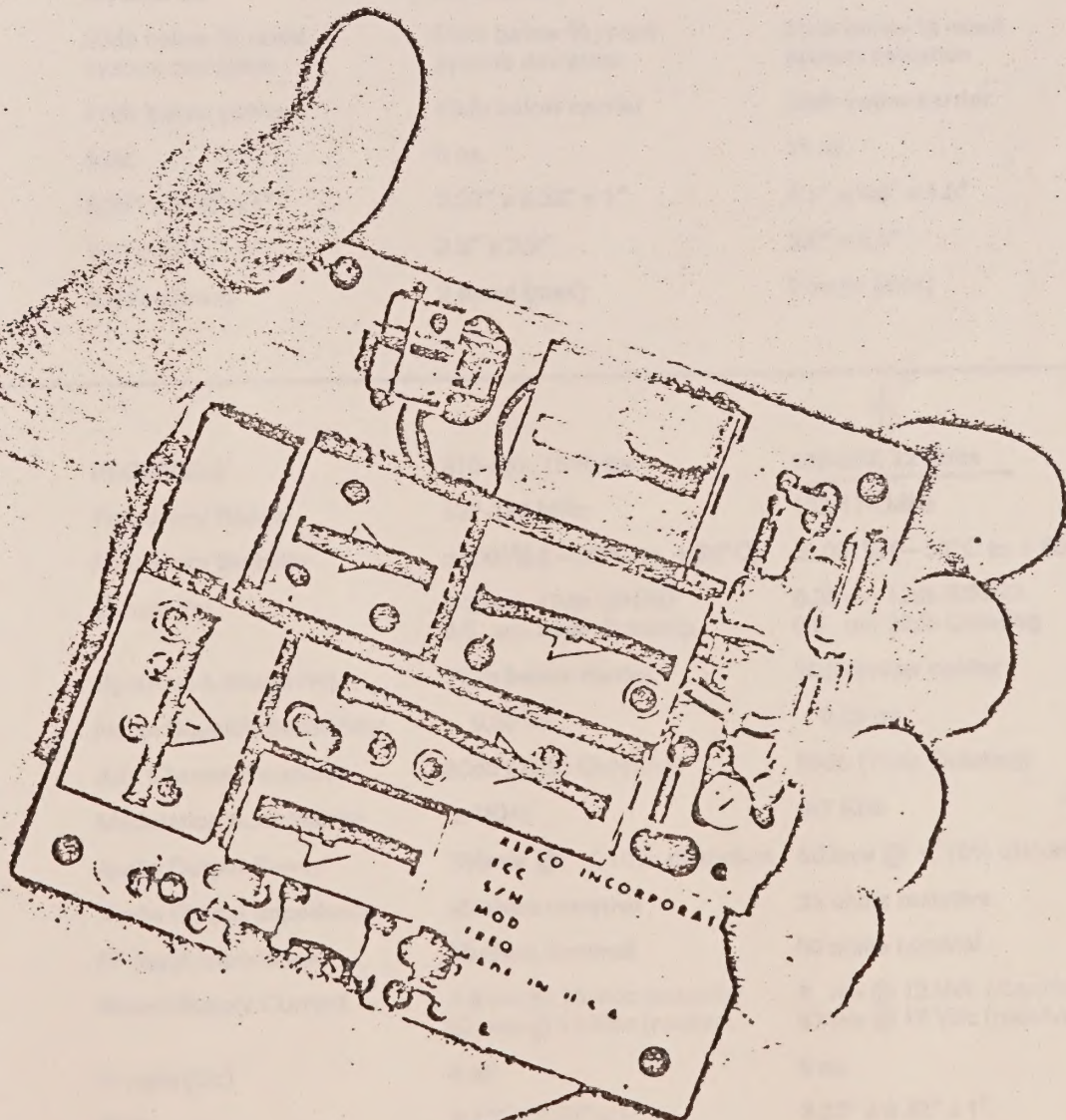
REPCO Incorporated

R. W. "BILL" SCHERMERHORN
SALES ENGINEER

1940 LOCKWOOD WAY
ORLANDO, FLORIDA 32804

P. O. BOX 7065
PHONE (305) 843-8484

Repco RF Links



VHF (high band, 132-174 MHz)

TRANSMITTERS	810-038, 2.2 Watts	810-040 4.0 Watts	816-011, 8 Watts	816-040, 25 Watts
Frequency Range	132-174 MHz	132-174 MHz	132-174 MHz	132-174 MHz
Frequency Stability	$\pm .0005\%$ (- 30°C to +60°C)	$\pm .0005\%$ (- 30°C to +60°C)	$\pm .0005\%$ (- 30°C to +60°C)	$\pm .0005\%$ (- 30°C to +60°C)
RF Power Output	2.2 W @ 15 Vdc	4.0 W @ 15 Vdc	8 W @ 12.5 Vdc	25 W @ 12.5 Vdc
Emission Type	15F2, 16F3	15F2, 16F3	15F2, 16F3	15F2, 16F3
Power Supply Volts	+15 Vdc Nominal	+15 Vdc Nominal	+12.5 Vdc Nominal	+12.5 Vdc Nominal
Operating Range	+12.8 to +17.3 Vdc	+12.8 to +17.3 Vdc	+10.5 to +14.5 Vdc	+10.5 to +14.5 Vdc
Power Supply Current	400 ma @ 15 Vdc	650 ma @ 15 Vdc	1.8 Amps @ 12.5 Vdc	5 Amps @ 12.5 Vdc
Audio Input Impedance	5,000 ohms @ 1 KHz	5,000 ohms @ 1 KHz	4,700 ohms @ 1 KHz	4,700 ohms @ 1 KHz
Audio Input Level @ 1KHz for ± 3.3 KHz Deviation	5-10 mv Rms	5-10 mv Rms	7 mv Rms	7 mv Rms
Audio Response (300-3000 Hz)	+1, -3db of std. EIA 6db/octave pre-emphasis characteristic	+1, -3db of std. EIA 6db/octave pre-emphasis characteristic	+1, -3db of std. EIA 6db/octave pre-emphasis characteristic	+1, -3db of std. EIA 6db/octave pre-emphasis characteristic
Audio Distortion (Max)	6% @ $\frac{2}{3}$ rated system deviation with 1 KHz modulation	6% @ $\frac{2}{3}$ rated system deviation with 1 KHz modulation	6% @ $\frac{2}{3}$ rated system deviation with 1 KHz modulation	6% @ $\frac{2}{3}$ rated system deviation with 1 KHz modulation
FM Hum & Noise	50db below $\frac{2}{3}$ rated system deviation	50db below $\frac{2}{3}$ rated system deviation	50db below $\frac{2}{3}$ rated system deviation	50db below $\frac{2}{3}$ rated system deviation
Spurious & Harmonics	47db below carrier	49db below carrier	60db below carrier	63db below carrier
Weight (Oz)	6 oz.	6 oz.	15 oz.	20 oz.
Size	3.32" x 3.32" x 1"	3.32" x 3.32" x 1"	4.1" x 4.6" x 1.5"	8.18" x 4.75" x 1.75"
Mtg. Centers	2.9" x 2.9"	2.9" x 2.9"	3.6" x 4.1"	4.25" x 6.68"
Transmit Ready	2 msec (max)	2 msec (max)	2 msec (max)	2 msec (max)

RECEIVERS	810-037, 15 Volts	810-055, 12 Volts
Frequency Range	132-174 MHz	132-174 MHz
Frequency Stability	$\pm .001\%$ (- 30°C to +60°C)	$\pm .001\%$ (- 30°C to +60°C)
Sensitivity	0.35 uv: 12db SINAD 0.5 uv: 20db Quieting	0.35 uv: 12db SINAD 0.5 uv: 20db Quieting
Spurious & Image Rej.	70db below carrier	70db below carrier
Noise Squelch Sensitivity	0.25 uv	0.25 uv
Adj. Channel Rejection	80db (20db Quieting)	80db (20db Quieting)
Modulation Acceptance	± 7 KHz	± 7 KHz
Audio Output Power	750mw @ <10% distortion	500mw @ <10% distortion
Audio Output Impedance	25 ohms resistive	25 ohms resistive
RF Input Impedance	50 ohms nominal	50 ohms nominal
Power Supply Current	4.6 ma @ 15 Vdc (standby) 87 ma @ 15 Vdc (receive)	8 ma @ 12 Vdc (standby) 87 ma @ 12 Vdc (receive)
Weight (Oz)	6 oz.	6 oz.
Size	3.32" x 3.32" x 1"	3.32" x 3.32" x 1"
Mtg. Centers	2.9" x 2.9"	2.9" x 2.9"

Modify
by Replacing
Filter with
30 KHz
Bandwidth
Filter

TELEMETRY PRODUCTS PRICE LIST

Effective: April 1, 1975

TRANSMITTERS

FREQ. & POWER MHz WATTS	MODEL NUMBER	QUANTITIES									
		1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
25-50 2.2 +15.0V	810-035	196.00	191.01	192.08	190.12	188.16	186.20	184.24	182.28	180.32	178.36
25-50 4.0 +15.0V	810-045	243.00	240.57	238.14	235.71	233.28	230.85	228.42	225.99	223.56	221.13
66-76 0.5 +15.0V	810-042	191.00	189.09	187.18	185.27	183.36	181.45	179.54	177.63	175.72	173.81
66-76 1.0 +15.0V	810-043	191.00	189.09	187.18	185.27	183.36	181.45	179.54	177.63	175.72	173.81
66-88 2.2 +15.0V	810-038	191.00	189.09	187.18	185.27	183.36	181.45	179.54	177.63	175.72	173.81
66-88 4.0 +15.0V	810-040	225.00	222.75	220.50	218.25	216.00	213.75	211.50	209.25	207.00	204.75
132-174 2.2 +15.0V	810-038	191.00	189.09	187.18	185.27	183.36	181.45	179.54	177.63	175.72	173.81
132-174 4.0 +15.0V	810-040	225.00	222.75	220.50	218.25	216.00	213.75	211.50	209.25	207.00	204.75
132-174 0.4 +15.0V	810-041	191.00	189.09	187.18	185.27	183.36	181.45	179.54	177.63	175.72	173.81
132-174 8.0 +12.5V	816-011	283.00	280.17	277.34	274.51	271.68	268.85	266.02	263.19	260.36	257.53
150.8-174 25.0 +12.5V	816-040	393.00	389.07	385.14	381.21	377.28	373.35	369.42	365.49	361.56	357.63
450-470 2.0 +6.25V	817-020	231.00	228.69	226.38	224.07	221.76	219.45	217.14	214.83	212.52	210.21
450-470 4.0 +6.25V	817-021	335.00	331.65	328.30	324.95	321.60	318.25	314.90	311.55	308.20	304.85

RECEIVERS

25-50 +15.0V	810-036	248.00	245.52	243.04	240.56	238.08	235.60	233.12	230.64	228.16	225.68
66-88, 132-174 +15.0V	810-037	237.00	234.63	232.26	229.89	227.52	225.15	222.78	220.41	218.04	215.67
25-50 +12.0V	810-056	248.00	245.52	243.04	240.56	238.08	235.60	233.12	230.64	228.16	225.68
66-88, 132-174 +12.0V	810-055	237.00	234.63	232.26	229.89	227.52	225.15	222.78	220.41	218.04	215.67
450-470 +6.25V	817-022	312.00	308.88	305.76	302.64	299.52	296.40	293.28	290.16	287.04	283.92

CRYSTALS

PART NO.	USED IN MODEL NUMBERS	PRICE EACH
23-10-003	810-036, -056	\$14.23
23-10-004	816-015	14.23
23-10-005	810-035, 810-045	16.51
23-10-006	810-038, -040, -041, -042, -043; 816-011, -040	18.79
23-10-007	810-037, 810-055	16.51
23-09-008	817-022 ("A" Model - Crystal Multiplication X15)	21.50
23-09-009	817-020, 817-021 ("A" Model - Crystal Multiplication X15)	24.50

- NOTES:**
- (1) Write for prices on quantities over 100.
 - (2) Transmitters and Receivers priced without Crystals.
 - (3) Delivery: 8 Weeks ARO - most models
 - (4) Terms: Cash, Net 30 (after approval of credit), FOB Orlando, Florida.

(Prices Subject to Change Without Notice)

SPECIAL PRODUCTS DEPARTMENT

To establish an open, net 30 day account, all firms (D & B rated or otherwise) must submit 3 trade references, Bank name & a current financial statement.

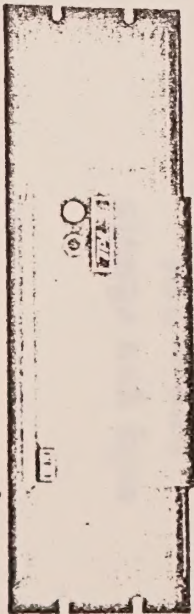
REPCO Incorporated

A Subsidiary of LCOPE Incorporated

DESIGNERS AND MANUFACTURERS OF
ELECTRONIC COMMUNICATIONS EQUIPMENT

1940 LOCKWOOD WAY
POST OFFICE BOX 7065
ORLANDO, FLORIDA 32804

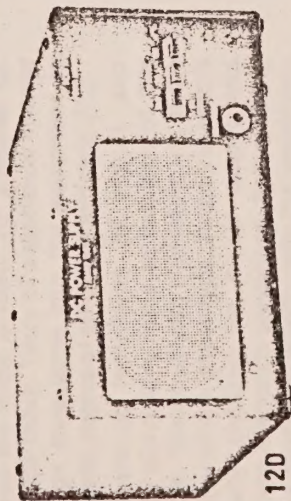
PHONE 308/643-0464
TWX 810-860-0120



TPL REPEATER AMPLIFIERS

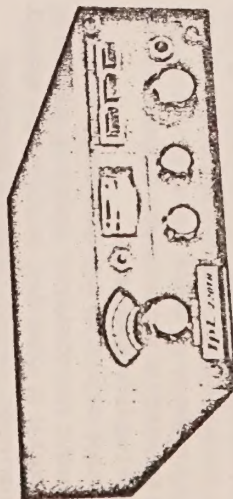
ALL TPL amplifiers can be ordered in a repeater configuration. This configuration is designed to mount in a standard 19" rack, is 5½" high. Amplifier is RF shielded and is equipped with BNC input and Type N output connectors. May be ordered with or without power supply and special carrier operated forced air cooling. To order use amplifier part number and indicate it is for repeater use. Forced air cooling and AC power supply should be indicated if desired. Prices upon request.

Rack option ... \$100.00 Fan option ... \$50



TPL PS3-A 12D

The TPL PS3-A 12D base station power supply is an AC supply for the exciter and TPL power amplifiers. It features fully regulated voltage for the exciter at up to 4 amps and filtered supply for the power amplifier at up to 15 amps, 20 amps intermittent. An eight ohm, 4" x 5" speaker is included for use with the transceiver. The PS3-A 12D also includes a switch to turn the amplifier off, so that the exciter can be operated without the amplifier. Price: \$135.00



TPL-220TR FM TRANSCEIVER

So very much for so little money! This small VHF/FM transceiver offers high quality performance and features found on no other equipment. Features such as tuneable and crystal controlled receiver are available. Each transceiver has provisions for use with an accessory AC power supply and an accessory transmitter VFO. TPL also offers a full line of accessories to meet every need.

The 220 TR delivers reliable, low cost operation on the 220 MHz amateur band. The 12 watt output is more than adequate for most uses and is also perfect for driving the TPL Solid State amplifiers for output power over 100 watts.

GENERAL SPECIFICATIONS: Frequency range ... 220-225 MHz • channel spacing ... 25 KHz • No. of channels ... 12 xtal + tuneable • Size ... 8.5" L x 2.9" W x 2" D • Weight ... 3.0 lbs • RF Power Output ... 12 watts FM • Spurious & harmonic radiation ... 60 db nominal below the carrier power level • Receiver type ... Dual conversion superheterodyne • Audio output ... 3.0 watts to 8 ohm load at less than 10% distortion • Selectivity (for 20 db quieting) ... -6 db at + 6 KHz - 60 db at + 25 KHz • Spurious rejection ... More than 60 db • Less than \$300.00

AVAILABLE LATE SUMMER 1974

Detailed specification sheets available. Please write. Prices subject to change without notice.

WALLACE & WALLACE Mfg's. Rep.
1206 MAPLE AVENUE
LOS ANGELES, CALIF. 90033
PHONE: 747-0401

talk power by **TPL** COMMUNICATIONS INC.
13125 YUKON AVENUE / HAWTHORNE, CALIF. 90230 / (213) 878-0131



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Amateur Radio Digital Communications, Grant 151

<https://archive.org/details/aloha-11>

why you should buy a TPL power amplifier

TPL brings you the finest amateur RF amplifier for VHF FM available today. Years of experience in solid state RF design have gone into the equipment to assure the highest degree of efficiency and reliability.

Only state-of-the-art techniques in circuit and semiconductor technology make an amplifier of this quality possible. The amplifying transistors are of the balanced emitter silicon power type. These transistors are individually checked for power output and reliability during mismatch conditions, before being inserted in the amplifiers. Additionally the amplifying transistors are operated well within the factory's suggested limitations for added reliability and life. This assures the customer of years of dependable service even under the most punishing conditions.

Most circuitry is of micro-strip technique for stability and broadband characteristics. Additional features of the micro-strip techniques include extreme mechanical stability and ease of servicing.

Antenna switching is accomplished through the use of specially selected RF relays: these relays activated by an RF sensing circuit consisting of a printed omni-directional coupler and amplifier. Thus when as little as .1 watt of RF power is applied to the input of the amplifier this circuit is activated causing the relay to switch this RF power through the RF power amplifier. During receive the antenna by-passes the amplifier and is fed through the relay to the transceiver.

Also of note is a reverse voltage protection diode. In the event the amplifier is connected to the wrong polarity, the diode will protect the power transistors from destruction.

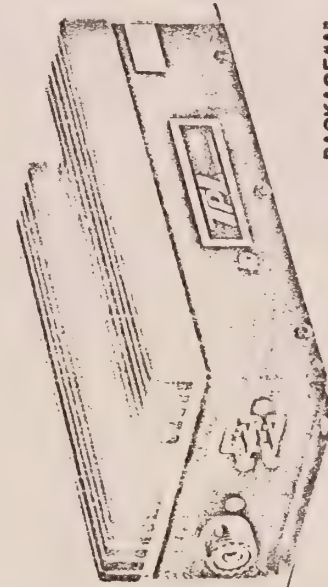
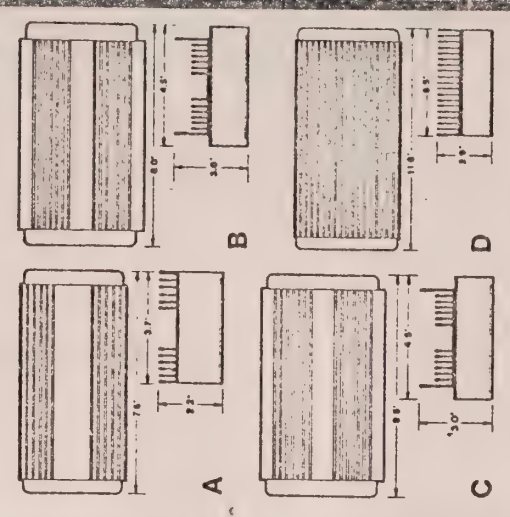
All RF and DC cables are supplied along with a detailed instruction manual describing installation, circuitry, and service. All of the units are very simple to install and fool-proof to operate. With proper care, these amplifiers will give you a lifetime of dependable service.

Commercial, type-accepted equipment is available for slightly higher prices. Those amplifiers include commercial quality filtering.

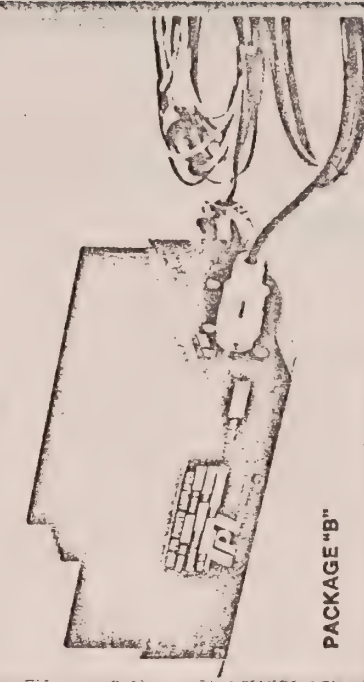
TPL AMATEUR SERVICE POWER AMPLIFIERS

MODEL	BAND	FREQUENCY	INPUT (NOMINAL)	PACKAGE OUTPUT (NOMINAL)	CURRENT at 13.8V (amps)	DRAIN SUGGESTED	AMATEUR NET
1006	6M-FM	50-54 MHz	5-15W	80-110W	8-11		\$185.00
2006	6M-FM/SSB	50-54 MHz	5-15W	180-220W	18-22		\$270.00
152	2M-FM	144-148 MHz	1-3W	10-15W	1-2		\$ 59.00
302	2M-FM	144-148 MHz	1-3W	25-30W	3-4		\$ 93.00
502B	2M-FM	144-148 MHz	1-3W	40-50W	5-6		\$130.00
802B	2M-FM	144-148 MHz	1-3W	70-90W	9-11		\$195.00
1202B	2M-FM	144-148 MHz	1-3W	100-120W	12-14		\$239.00
502	2M-FM	144-148 MHz	5-15W	40-50W	4-5		\$113.00
802	2M-FM	144-148 MHz	5-15W	70-90W	8-10		\$191.00
1202	2M-FM	144-148 MHz	5-15W	100-120W	11-13		\$228.00
1202C	2M-FM	144-148 MHz	15-40W	80-120W	8-12		\$228.00
2002	2M-FM	144-148 MHz	5-15W	180-220W	24-28		\$375.00
401	220 MHz FM	220-225 MHz	5-15W	30-40W	4-5		\$118.00
801	220 MHz FM	220-225 MHz	5-15W	70-90W	8-10		\$179.00
300	440 MHz FM	420-450 MHz	4-10W	20-40W	2-4		\$162.00
300B	440 MHz FM	420-450 MHz	1-3W	20-30W	3-5		\$190.00
600	440 MHz FM	420-450 MHz	4-10W	50-60W	6-7		\$245.00
600B	440 MHz FM	420-450 MHz	1-3W	50-60W	7-8		\$278.00
5080A	80M SSB/CW	35-40 MHz	5-15W	120-140W	12-14		\$169.00
5040A	40M SSB/CW	7.0-7.3 MHz	5-15W	120-140W	12-14		\$169.00
5020A	20M SSB/CW	14.0-14.35 MHz	5-15W	120-140W	12-14		\$169.00
5015A	15M SSB/CW	21.0-21.45 MHz	5-15W	120-140W	12-14		\$169.00
5010A	10M SSB/CW/FM	28.0-29.7 MHz	5-15W	120-140W	12-14		\$169.00
2001A*	80-10 SSB	3.5-29.7 MHz	5-15W	350-400W	35-40		\$395.00

*Broadband. All others 1MHz bandwidth.



PACKAGE "A"



PACKAGE "B"



PACKAGE "C"



PACKAGE "D"



Cushcraft
CORPORATION

AMATEUR NET PRICE SCHEDULE

621 HAYWARD STREET □ MANCHESTER, NEW HAMPSHIRE 03103 □ (603) 627-7877

Effective September 15, 1974

AMATEUR FM ANTENNAS

A147-4	\$ 14.50
A147-11	23.95
A147-20T	46.50
A147-22	68.50
A220-11	21.95
A449-6	14.95
A449-11	19.95
AFM-4D	52.50
AFM-24D	48.50
AFM-44D	46.50
AM-147T	29.50
AR-2	16.50
AR-6	23.50
AR-25	19.50
AR-220	16.50
AR-450	16.50
ARX-2	26.50
ARX-2K	10.95
ARX-220	26.50
ARX-450	26.50

AMATEUR FM STACKING KITS

A14-SK	\$ 13.95
A14-VPK	19.95
A21-SK	13.95
A220-11VPK	19.95
A147-SK	13.95
A147-VPK	22.95
A449-SK	13.95
A449-VPK	18.95

BIG WHEEL ANTENNAS

ABW-12S	\$ 10.95
ABW-14S	21.95
ABW-144	19.95

BLITZ BUG

LAC-1	\$ 4.50
LAC-2	4.50
DX-ARRAYS - 20 ELEMENT	
DX-120	\$ 38.00
DX-220	30.00
DX-420	28.00

DX-ARRAY BALUNS

DX-1BN	\$ 10.95
DX-2BN	10.95
DX-4BN	10.95
DX-VPB	8.95

DX-ARRAY - 40 ELEMENT

DXK-140	\$ 51.00
DXK-240	48.00
DXK-440	36.00

DX-ARRAY - 80 ELEMENT

DXK-180	\$ 100.00
DXK-280	85.00
DXK-480	70.00

HF MONOBEAMS

A14-2	\$ 100.00
A14-3	130.00
A21-3	80.00
A21-4	110.00
A28-3	60.00
A28-4	70.00

PROLINE VHF BEAMS

APL-2SK	\$ 18.50
APL-6SK	21.50
APL-65	110.00
APL-210	80.00

SQUALOS

ASQ-2	\$ 16.95
ASQ-6	21.95
ASQ-6SK	9.95
ASQ-22	34.95
ASQ-M	9.95

TRI BAND BEAM

AFB-1	\$ 14.50
ATB-34	189.50

TWIST ANTENNAS

A144-20T	\$ 52.00
A144-80QT	325.00
A432-20T	45.00
A450-20T	50.00

VHF/UHF BEAMS

A50-3	\$ 26.50
A50-5	38.50
A50-6	57.50
A50-10	84.50
A144-7	18.95
A144-11	23.95
A430-11	18.95

VHF/UHF STACKING KITS

A11-SK	\$ 13.95
A17-SK	13.95
A41-SK	13.95
A535-SK	13.95
A561-SK	14.95
AQK-144	79.50
AQK-444	62.50

Supersedes all previous price lists

FORM ANP-24

TWIST

MULTI POLARIZED VHF ANTENNAS

FOR SATELLITE TRACKING, BACK SCATTER, MOONBOUNCE, BASE TO MOBILE AND POINT TO POINT COMMUNICATIONS.

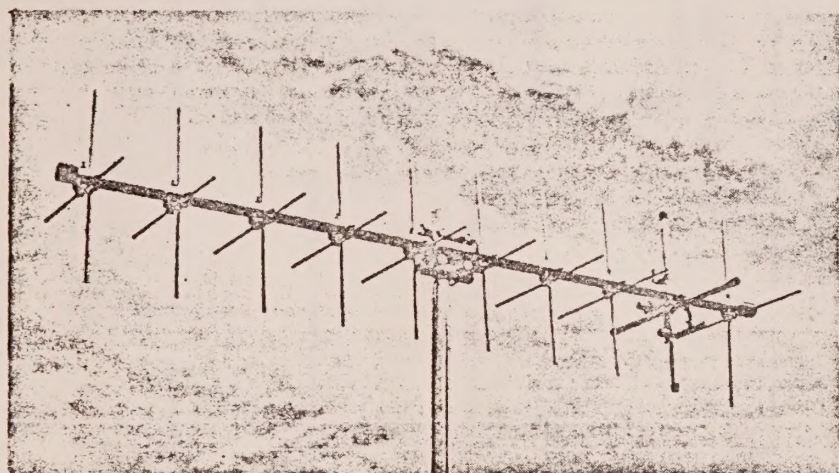
The twist has ten elements in the horizontal and ten elements in the vertical plane. It uses two Reddi Matched driven elements and a simple coaxial phasing system to give horizontal or vertical polarization, left or right circular polarization and axial polarization.

The phasing harness can be permanently mounted at the antenna with one 52 ohm coax feed line for a single mode of polarization. With the harness at the operating position and two 52 ohm coax feed lines any mode of polarization can be selected.

Driven elements and phasing lines have standard coax fittings. The antennas are cut to your exact frequency in the 135 to 150 mhz range.

A144-20T

20 Element Twist



QUAD TWIST

The Quad Twist utilizes four 20 element antennas mounted on an H type stacking frame. (see VHF Quad photo) This configuration gives a reduction in the E and H plane components for a substantial increase in forward gain and larger capture area to improve receive and transmit characteristics.

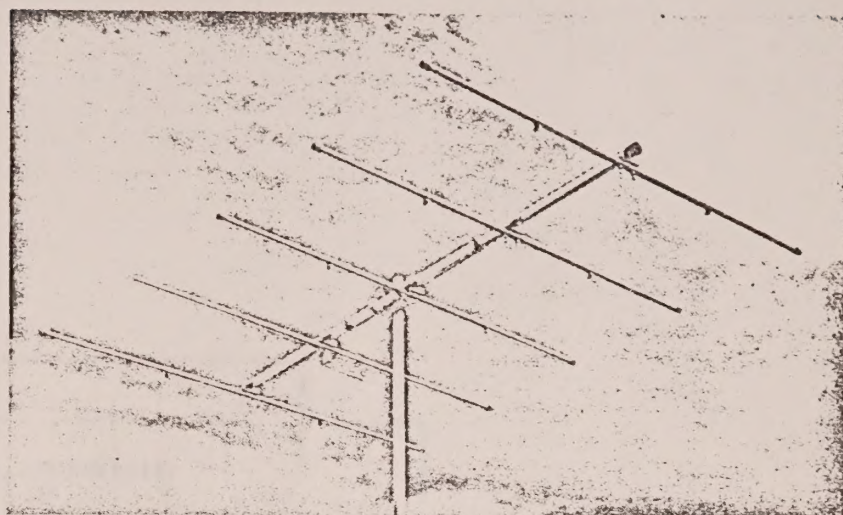
The array is complete with four antennas, stacking frame, coax harnesses, phasing lines and all hardware. The Quad Twist is cut to your exact frequency in the 135 - 150 mhz range.

A144-80QT

80 Element Quad Twist

MODEL NO.	A144-20T	A144-80QT
BOOM	1" x 144"	4 - 1" x 144"
ELEMENTS	3/16" rod	3/16" rod
WEIGHT	6 lbs.	40 lbs.
HORIZ. POLARIZATION		
FORWARD GAIN	12.4 db	17.8 db
BEAMWIDTH E PLANE	38°	23°
H PLANE	48°	38°
VERT. POLARIZATION		
FORWARD GAIN	12.4 db	17.8 db
BEAMWIDTH E PLANE	48°	38°
H PLANE	38°	23°
CIRC. POLARIZATION		
FORWARD GAIN	13.6 db	19 db
BEAMWIDTH E PLANE	38°	23°
H PLANE	38°	23°
FRONT TO BACK RATIO	22 db	24 db
BANDWIDTH	400 khz	400 khz

6 METER BEAMS



3 - 5 - 6 - 10 ELEMENTS

Proven performance from rugged, full size, 6 meter beams. Element spacings and lengths have been carefully engineered to give best pattern, high forward gain, good front to back ratio and broad frequency response.

Booms are .058 wall and elements are 3/4" - 5/8" .049 wall seamless chrome finish aluminum tubing. The 3 and 5 element beams have 1 3/8" - 1 1/4" booms. The 6 and 10 element beams have 1 5/8" - 1 1/2" booms. All brackets are heavy gauge formed aluminum. Bright finish cad plated bolts are adjustable for up to 1 5/8" mast on 3 and 5 element and 2" on 6 and 10 element beams. All models may be mounted for horizontal or vertical polarization.

New features include adjustable length elements, kilowatt Reddi Match and built-in coax fitting for direct 52 ohm feed. These beams are factory marked and supplied with instructions for quick assembly.

DESCRIPTION	3 element	5 element	6 element	10 element
MODEL NO.	A50-3*	A50-5*	A50-6	A50-10
BOOM LGTH.	6'	12'	20'	24'
LONGEST EL.	117"	117"	117"	117"
TURN RADIUS	6'	7' 6"	11'	13'
FWD. GAIN	7.5 db	9.5 db	11.5 db	13 db
F/B RATIO	20 db	24 db	26 db	28 db
WEIGHT	7 lbs.	11 lbs.	18 lbs.	25 lbs.
HAM NET				

COAXIAL DUAL STACKING KITS

Double your effective radiated power by stacking 6 meter beams. Cush Craft coaxial stacking kits provide a simple and efficient method for realizing 3 db additional gain while maintaining the superior characteristics of our single beams. The stacking kits are complete with RG-59/U cable and preassembled fittings for direct 52 ohm feed.

MODEL NO.	FOR STACKING	AMATEUR NET
A535-SK *	A50-3 or A50-5	
A561-SK *	A50-6 or A50-10	

PARCEL POST OR UPS SHIPPING

For your convenience and economy the Cush Craft antennas marked with a star by the model number, can now be shipped by parcel post or parcel service.

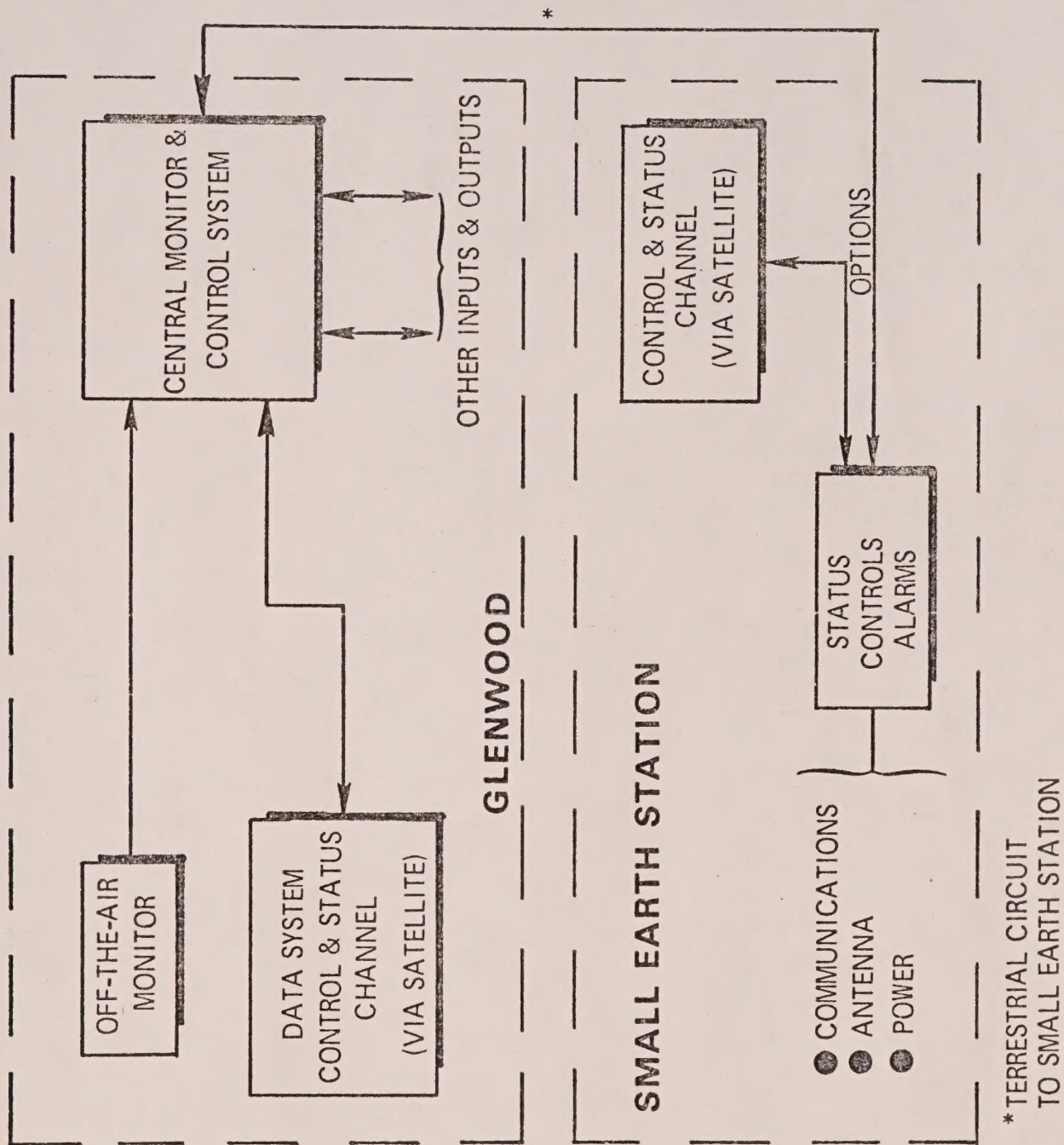


FIGURE 6
CONTROL & MONITORING OPTIONS
FOR DIRECT CUSTOMER ACCESS DATA

